

PD MultiTrap G-25

Instructions for Use

PD MultiTrap™ G-25 contains

- Four prepacked PD MultiTrap 96-well filter plates, each well containing a column with 500 μ L of Sephadex™ G-25 Resin
- Instructions for use

Purpose

PD MultiTrap G-25 is designed for a rapid and convenient single use sample cleanup of proteins/biomolecules.

PD MultiTrap G-25 can be used for sample preparation of multiple samples in parallel for a wide range of applications such as desalting, buffer exchange and removal of low molecular weight compounds.

PD MultiTrap G-25 is suitable for both manual use and for automation together with a centrifuge.

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1 Principle

PD MultiTrap G-25 96-well filter plates contain Sephadex G-25 Resin, which allows rapid group separation of high molecular weight substances from low molecular weight substances.

PD MultiTrap G-25 96-well filter plates are used for high-throughput desalting, buffer exchange and sample cleanup of multiple samples in parallel. Small molecules like salt, free labels or other impurities are efficiently separated from the high molecular weight substances of interest.

The chromatography technique is gel filtration, where molecules are separated on the basis of differences in size.

- Molecules larger than the largest pores in the Sephadex matrix are excluded from the matrix and eluted first, in or just after the void volume. The void volume is the column volume outside the Sephadex matrix.
- Molecules smaller than the largest pores in the Sephadex matrix will penetrate the pores to varying extents. They have a larger accessible column volume than the large molecules and therefore they elute after the large molecules just before one total column volume of buffer has passed through the well.

Cytiva provides an assortment of sample cleanup products. The different formats available are summarized in Table 1.

Table 1. Product overview

Cleanup product	Exclusion limit, M_r	Bed volume	Sample volume gravity protocol ¹	Sample volume spin protocol ¹
PD SpinTrap™ G-25	5000	0.5 mL	–	100 to 180 µL
PD MultiTrap G-25	5000	0.5 mL	–	70 to 130 µL
PD MiniTrap™ G-25	5000	2.1 mL	0.1 to 0.5 mL	0.2 to 0.5 mL
PD MidiTrap™ G-25	5000	3.5 mL	0.5 to 1.0 mL	0.75 to 1.0 mL
PD-10 Desalting Columns	5000	8.3 mL	1.0 to 2.5 mL	1.75 to 2.5 mL
PD MiniTrap G-10	700	2.1 mL	0.1 to 0.3 mL	–
PD MidiTrap G-10	700	5.3 mL	0.4 to 1.0 mL	–

¹ Recommended sample volumes

2 Advice on handling

Equilibration

- It is critical to equilibrate the columns in the 96-well filter plate to remove the storage solution completely. Follow the protocol to make sure that a equilibration volume corresponding to three packed bed volumes is used.

Sample application

- Load 70 to 130 µL samples per well. For larger sample volumes (or a few number of samples), consider use of a more suitable cleanup format, see Table 1.

- Addition of a stacker volume can improve the recovery. For sample volumes less than 100 μL it is recommended to apply a stacker volume of equilibration buffer after the sample has been fully absorbed so that the total volume equals 100 μL .

Centrifugation

- Centrifuge the PD MultiTrap G-25 at $800 \times g$.
- Remember to change or empty the collection plate between steps.

Recovery

Recovery of the applied amount of sample is dependent on the type of protein or other biomolecule. Typically the recovery is in the range 70% to 90%.

- An increase in sample concentration can improve recovery.
- Addition of a stacker volume can improve recovery.

3 Protocol

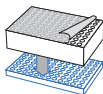
PD MultiTrap G-25 preparation

Step	Action
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|---|--|
| 1 | Suspend the resin by gently shaking the plate upside down. |
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Step	Action
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| 2 | Remove the top and bottom seals and place the plate on the collection plate. |
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|---|--|
| 3 | Remove the storage solution by centrifugation for 1 minute at $800 \times g$. |
|---|--|

Equilibration

Step	Action
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|---|--|
| 1 | Equilibrate by adding 300 μL equilibration buffer per well. |
|---|--|



- | | |
|---|---|
| 2 | Centrifuge for 1 minute at $800 \times g$. |
| 3 | Discard the flowthrough and replace the collection plate. |
| 4 | Repeat this procedure 4 times (5 times in total). |

Sample application

Step	Action
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|---|--|
| 1 | Replace the used collection plate with a new clean collection plate for sample collection. |
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| 2 | Apply the sample (70 to 130 μ L) slowly in the middle of the packed bed. |
| 3 | Optional: After the sample has entered the packed bed, apply a stacker volume. |

Elution

Step	Action
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- | | |
|---|---|
| 1 | Elute by centrifugation $800 \times g$ for 2 minutes. |
|---|---|



- | | |
|---|---|
| 2 | The cleaned products are now available in the collection plate. |
|---|---|

4 Characteristics

Filter plate material	Polypropylene and polyethylene
Filter plate size	127.8 $\times$ 85.5 $\times$ 30.6 mm

Filter plate well volumes	800 µL
Matrix	Sephadex G-25 Resin
Particle size range	85 to 260 µm
Packed bed volume	500 µL (per well)
Maximum sample volume	130 µL
Desalting Capacity	> 85%
Exclusion limit	M _r 5000
Chemical stability	All commonly used buffers
Working pH range	2 to 13
Storage temperature	2°C to 8°C
Storage solution	20% ethanol

5 Ordering information

Product	Quantity	Product code
PD MultiTrap G-25	4 × 96-well filter plates	28918006
Collection plate 500 µL	5 × 96-well plates	28403943
V-bottom		

Related products	Quantity	Product code
PD-10 Desalting Columns	30	17085101
PD SpinTrap G-25	50	28918004
PD MiniTrap G-25	50	28918007
PD MidiTrap G-25	50	28918008
PD MiniTrap G-10	50	28918010
PD MidiTrap G-10	50	28918011
HiTrap™ Desalting	5 × 5 mL	17140801
HiTrap Desalting ¹	100 × 5 mL	11000329
HiPrep™ 26/10 Desalting	1 × 53 mL	17508701
HiPrep 26/10 Desalting	4 × 53 mL	17508701

¹ Pack size available by special order.

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28922526 AE V:4 06/2020